

Mineral Industry Surveys

For information, contact:

John F. Papp, Chromium Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4963, Fax: (703) 648-7757
E-mail: jpapp@usgs.gov

Joseph M. Krisanda (Data)
Telephone: (703) 648-7987
Fax: (703) 648-7975

Internet: <http://minerals.usgs.gov/minerals>

CHROMIUM IN APRIL 2003

On the basis of gross weight, consumption of chromium ferroalloys and metal in April 2003 increased 4% compared with consumption in March 2003, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in April 2003, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of April 2003, and U.S. foreign trade data for selected chromium-containing materials in March 2003.

Update

The Defense National Stockpile Center (DNSC) announced the sale of 7,257 metric tons of ferrochromium in May valued at \$4.3 million. The sale comprised 5,443 tons of high-carbon ferrochromium and 1,814 tons of low-carbon ferrochromium

(Defense National Stockpile Center, 2003a). DNSC reported increasing the high-carbon ferrochromium sales ceiling (that is, the maximum amount that can be awarded in a fiscal year) in fiscal year 2003 (October 1, 2002, to September 30, 2003) to 63,503 tons (Defense National Stockpile Center, 2003b). The actual amount of high-carbon ferrochromium that will be offered and awarded by the DNSC is subject to market conditions.

References Cited

- Defense National Stockpile Center, 2003a, Stockpile announces ferrochromium sales for May 2003: Defense National Stockpile Center, News Release DNSC-03-2303, June 5, 1 p.
- Defense National Stockpile Center, 2003b, Stockpile announces high carbon ferrochromium change: Defense National Stockpile Center, News Release DNSC-03-2306, June 3, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS¹

(Metric tons, gross weight)

	2002	2003				
	January-December ²	February	March	First quarter	April	January-April ²
Production:						
Stainless steel production ³	2,180,000 ⁴	167,000	204,000	544,000	206,000	750,000 ⁴
Components of U.S. supply:						
Stainless steel scrap receipts	815,000	49,300	83,700	199,000	74,600	273,000
Stainless steel scrap consumption	1,190,000	80,500 ^r	114,000	282,000	102,000	385,000
Imports for consumption:						
Chromite ore	112,000	46,800	5,010	61,300	NA	61,300 ⁵
Ferrochromium:						
More than 4% carbon	283,000	31,400	28,500	96,800	NA	96,800 ⁵
More than 0.5%, but not more than 3% carbon	8,040	1,300	1,820	3,160	NA	3,160 ⁵
Not more than 0.5% carbon	25,600	1,220	2,620	6,430	NA	6,430 ⁵
Ferrochromium silicon	28,900	--	--	3,350	NA	3,350 ⁵
Total ferroalloy imports	345,000	33,900	33,000	110,000	NA	110,000 ⁵
Chromium metal ⁶	6,670	702	579	1,660	NA	1,660 ⁵
Stainless steel	752,000	52,000	56,000	161,000	NA	161,000 ⁵
Stainless steel scrap	81,000	5,650	6,340	16,300	NA	16,300 ⁵
Distribution of U.S. supply:						
Industry consumer, chromium ferroalloys and metal	384,000	29,800 ^r	33,600 ^r	94,500	34,900	129,000
Exports:						
Chromite ore	24,300	442	596	1,790	NA	1,790 ⁵
Chromium ferroalloys:						
High-carbon ferrochromium	13,500	86	220	591	NA	591 ⁵
Low-carbon ferrochromium	2,070	110	132	440	NA	441 ⁵
Ferrochromium silicon	281	--	--	--	NA	-- ⁵
Total ferroalloy exports	15,900	196	352	1,030	NA	1,030 ⁵
Chromium metal	498	27	78	150	NA	150 ⁵
Stainless steel	273,000	26,200	25,700	76,100	NA	76,100 ⁵
Stainless steel scrap	342,000	67,300	68,600	177,000	NA	177,000 ⁵
Stocks at end of period:						
Industry consumer, Chromium ferroalloys and metal	13,900	20,800 ^r	24,400 ^r	XX	29,700	XX
Government stockpile:						
Chromite ore	204,000	204,000	176,000	XX	176,000	XX
Chromium ferroalloys	763,000	750,000	746,000	XX	733,000	XX
Chromium metal	7,220	7,220	7,210	XX	7,210	XX

¹Revised. NA Not available. XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

⁴Includes revised data which is not broken out by specific month.

⁵Includes January through March data, April data not available.

⁶Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS OF CHROMIUM PRODUCTS IN 2003¹

(Metric tons, gross weight unless otherwise noted)

	March	April	January- April ²
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	285	282	1,150
High-strength low-alloy steel	546 ^r	542	2,140
Stainless and heat-resisting steel	29,000 ^r	30,800	112,000
Full alloy steel	1,480 ^r	1,290	5,450
Electrical steel	W	W	W
Tool steel	543 ^r	394	1,770
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	608 ^r	608	2,480
Other alloys ³	96 ^r	58	326
Total	33,600 ^r	34,900	129,000
Total, chromium content	19,600 ^r	20,400	76,400
Consumption by material:			
Low-carbon ferrochromium	1,880 ^r	1,780	7,220
High-carbon ferrochromium	27,300 ^r	29,000	107,000
Ferrochromium silicon	3,890 ^r	3,690	13,400
Chromium metal	320 ^r	329	1,240
Chromite ore	W	W	W
Chromium-aluminum alloy	38 ^r	16	121
Other chromium materials	W	W	W
Total	33,600 ^r	34,900	129,000
Total, chromium content	19,600 ^r	20,400	76,400
Consumer stocks:			
Low-carbon ferrochromium	1,740 ^r	1,670	XX
High-carbon ferrochromium	W	W	XX
Ferrochromium silicon	778	800	XX
Chromium metal	164 ^r	156	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	25	24	XX
Other chromium materials	31	24	XX
Total	24,400 ^r	29,700	XX
Total, chromium content	14,700 ^r	17,800	XX

^rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Includes welding and alloy hard-facing rods and materials, wear- and corrosion-resistant alloys, and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY OF CHROMIUM MATERIALS^{1,2}

(Metric tons)

Period	Chromite ore		Chromium ferroalloys			Chromium metal
	Chemical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	
2002:						
April	192,000	111,000	558,000	239,000	3,100	7,220
May	192,000	111,000	558,000	239,000	3,100	7,220
June	78,300	175,000 ³	374,000	163,000	--	7,210
July	78,300	175,000	372,000	163,000	--	7,210
August	78,300	113,000	547,000 ³	235,000 ³	--	7,220 ³
September	78,300	113,000	544,000	234,000	--	7,220
October	78,300	127,000 ³	536,000	233,000	--	7,220
November	78,300	127,000	535,000	232,000	--	7,220
December	78,300	126,000	531,000	232,000	--	7,220
2003:						
January	78,300	126,000	527,000	231,000	--	7,220
February	78,300	126,000	521,000	229,000	--	7,220
March	78,300	98,000	517,000	228,000	--	7,210
April	78,300	98,000	505,000	228,000	--	7,210

-- Zero.

¹Data are rounded to no more than three significant digits.

²These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract; however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

³The increase resulted from the reclassification of physical inventory from committed to uncommitted. It does not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL¹

Period	Chromite ore		Chromium ferroalloys ²			Chromium metal ³	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2002:							
March	234	\$106	577	354	\$513	27	\$447
April	528	822	674	412	652	80	699
May	494	153	774	452	686	48	493
June	17,200	824	456	261	416	24	265
July	335	89	394	240	369	25	366
August	345	61	771	469	577	38	414
September	458	171	664	394	589	25	253
October	2,490	842	9,880	6,460	4,650	44	404
November	456	122	520	307	462	35	445
December	415	93	296	178	288	55	483
January-December	24,300	4,070	15,900	10,100	10,100	498	4,940
2003:							
January	747	280	483	290	472	45	365
February	442	159	196	111	230	27	150
March	596	166	352	217	445	78	407
January-March	1,790	605	1,030	619	1,150	150	922

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

³Includes chromium metal waste and scrap.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL¹

(Metric tons)

	2002	2003		
	January- December ²	February	March	January- March ²
Chromite ore:				
Not more than 40% chromic oxide:				
Gross weight	1,080	--	--	--
Chromic oxide content	301	--	--	--
More than 40% but less than 46% chromic oxide:				
Gross weight	10,600	192	138	459
Chromic oxide content	4,470	NA	NA	NA
46% or more chromic oxide:				
Gross weight	100,000	46,600	4,880	60,900
Chromic oxide content	46,700	NA	2,270	NA
Total, all grades:				
Gross weight	112,000	46,800	5,010	61,300
Chromic oxide content	51,500	NA	2,330	NA
Ferrochromium:				
Low-carbon: ³				
Not more than 0.5%:				
Gross weight	25,600	1,220	2,620	6,430
Chromium content	17,000	847	1,840	4,450
More than 0.5% but not more than 3%:				
Gross weight	8,040	1,300	1,820	3,160
Chromium content	4,960	717	1,420	2,160
Total, low-carbon:				
Gross weight	33,600	2,520	4,450	9,590
Chromium content	21,900	1,560	3,260	6,620
High-carbon: ⁴				
Gross weight	283,000	31,400	28,500	96,800
Chromium content	169,000	17,300	14,100	52,100
Total, all grades:				
Gross weight	316,000	33,900	33,000	106,000
Chromium content	191,000	18,800	17,400	58,700
Chromium metal:				
Other than waste and scrap	6,570	637	514	1,520
Waste and scrap	93	65	64	135
Total, all grades	6,670	702	579	1,660

NA Not available. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Ferrochromium containing not more than 3% carbon.

⁴Ferrochromium containing more than 4% carbon.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN 2003, BY GRADE AND BY COUNTRY¹

Grade and country	March			January-March ²		
	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Cr ₂ O ₃ (metric tons)	Value ³ (thousands)
More than 40% but less than 46% chromic oxide, South Africa	138	NA	\$21	459	NA	\$68
46% or more chromic oxide, South Africa	4,880	2,270	383	60,900	NA	2,970
Total	5,010	2,330	404	61,300	NA	3,030

NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2003,
BY GRADE AND BY COUNTRY¹

Grade and country	March			January-March ²		
	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value ³ (thousands)
High-carbon ferrochromium:⁴						
China	20	14	\$25	20	14	\$25
Kazakhstan	203	141	123	15,400	10,700	7,020
South Africa	28,300	14,000	8,240	71,100	35,100	20,600
Zimbabwe	--	--	--	10,300	6,280	3,620
Total	28,500	14,100	8,390	96,800	52,100	31,200
Low-carbon ferrochromium:⁵						
More than 0.5% but not more than 3% carbon:						
Mexico	1,550	1,250	1,050	1,550	1,250	1,050
Russia	11	5	12	11	5	12
South Africa	260	164	204	1,600	906	781
Total	1,820	1,420	1,270	3,160	2,160	1,850
Not more than 0.5% carbon:						
China	20	14	26	40	27	48
Germany	1,030	724	2,030	1,250	879	2,440
Japan	452	314	922	595	411	1,210
Kazakhstan	--	--	--	364	258	319
Mexico	200	156	177	200	156	177
Russia	918	632	838	3,940	2,700	3,520
Turkey	--	--	--	40	25	69
Total	2,620	1,840	3,990	6,430	4,450	7,790
All grades:						
China	40	27	51	60	41	74
Germany	1,030	724	2,030	1,250	879	2,440
Japan	452	314	922	595	411	1,210
Kazakhstan	203	141	123	15,700	10,900	7,340
Mexico	1,750	1,410	1,230	1,750	1,410	1,230
Russia	929	637	850	3,950	2,700	3,540
South Africa	28,600	14,100	8,440	72,700	36,000	21,300
Turkey	--	--	--	40	25	69
Zimbabwe	--	--	--	10,300	6,280	3,620
Total	33,000	17,400	13,600	106,000	58,700	40,900

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May included revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Ferrochromium containing more than 4% carbon.

⁵Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 8
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2003,
BY GRADE AND BY COUNTRY¹

Grade and country	March		January-March ²	
	Gross weight (metric tons)	Value ³ (thousands)	Gross weight (metric tons)	Value ³ (thousands)
Waste and scrap:				
Germany	--	--	9	\$166
Japan	22	\$152	22	152
Korea, Republic of	--	--	1	7
Malaysia	1	3	1	3
Russia	40	144	100	361
Singapore	1	5	1	5
Total	64	304	135	695
Other than waste and scrap:				
Austria	--	--	(4)	3
China	148	524	331	1,170
France	163	1,210	399	3,040
Germany	(4)	7	51	250
India	(4)	2	(4)	2
Italy	--	--	(4)	3
Kazakhstan	--	--	37	128
Russia	42	143	302	1,050
Singapore	--	--	(4)	11
Spain	--	--	4	17
Switzerland	(4)	2	(4)	8
Taiwan	--	--	(4)	4
Taiwan	161	985	399	2,590
Total	514	2,880	1,520	8,270
All grades:				
Austria	--	--	(4)	3
China	148	524	331	1,160
France	163	1,210	399	3,040
Germany	(4)	7	60	417
India	(4)	2	(4)	2
Italy	--	--	(4)	3
Japan	22	152	22	152
Kazakhstan	--	--	37	128
Korea, Republic of	--	--	1	7
Malaysia	1	3	1	3
Russia	82	287	402	1,410
Singapore	1	5	1	16
Spain	--	--	4	17
Switzerland	(4)	2	(4)	8
Taiwan	--	--	(4)	4
United Kingdom	161	985	399	2,590
Total	579	3,180	1,660	8,950

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revised data.

³Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

⁴Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 9
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2003¹

Stainless steel product	March		January-March	
	Gross weight (metric tons)	Value ² (thousands)	Gross weight (metric tons)	Value ² (thousands)
Exports:				
Ingot	400	\$5,620	1,200	\$10,600
Flat-rolled (width > 600 mm)	12,100	24,600	37,300	75,800
Flat-rolled (width < 600 mm)	7,750	18,200	23,500	54,100
Bars and rods in irregular coils	250	812	556	1,590
Other bars and rods	1,250	6,970	3,400	18,000
Wire	813	4,890	2,330	14,200
Tubes, pipes, hollow profiles	3,090	14,800	7,830	34,100
Total	25,700	75,900	76,100	208,000
Stainless steel scrap	68,600	31,800	177,000	90,300
Grand total	94,300	108,000	253,000	299,000
Imports:				
Ingot	14,000	19,600	39,000	53,200
Flat-rolled (width > 600 mm)	22,300	35,500	62,800	98,100
Flat-rolled (width < 600 mm)	3,130	9,380	10,800	30,800
Bars and rods in irregular coils	4,180	6,610	10,200	16,100
Other bars and rods	4,660	10,900	15,500	34,300
Wire	2,470	7,220	7,740	22,600
Tubes, pipes, hollow profiles	5,290	21,700	15,000	60,400
Total	56,000	111,000	161,000	316,000
Stainless steel scrap	6,340	4,580	16,300	11,600
Grand total	62,400	115,000	177,000	327,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.